



Twiga Tracker Initiative: Giraffe Tagging Report

Amboseli Ecosystem, Kenya

16-19 October 2023

Background

The Amboseli ecosystem, situated in Kajiado County in Kenya, spans ~14,143 km² and comprises the Amboseli National Park (NP) and adjacent community and private conservancy dispersal areas in the Magadi Region. Since 1991, the ecosystem has been recognised as a UNESCO Man and Biosphere Reserve. Despite this formal protection, the landscape has undergone significant changes in recent years, characterised by increased fragmentation evidenced by the proliferation of fences and human settlements resulting in land use changes. Consequently, vast swaths of once open landscapes have been converted into fenced-off properties raising concerns about the movement of wildlife and the future of the ecosystem.

According to the 2021 National Wildlife Census conducted by the Kenya Wildlife Service (KWS) and Wildlife Research and Training Institute (WRTI), the Amboseli ecosystem was a key stronghold for Masai giraffe (*Giraffa tippelskirchi tippelskirchi*). The census recorded ~6,425 individuals, most of which occurred in the dispersal areas adjoining Amboseli NP. Their ability to roam freely throughout the landscape has gradually been curtailed by land fragmentation, restricting access to essential resources which are spatially and temporally dynamic. This fragmentation and corresponding habitat loss, coupled with poaching, are real threats facing Masai giraffe in this ecosystem.

Understanding how increased fencing and human population growth affect the spatial patterns of Masai giraffe

will provide valuable insights for enhancing landscape-level strategies to better conserve this important giraffe species. Additionally, it will contribute to the understanding of multi-species connectivity based on the current and future viability of core habitats and corridors.

Objective

Our main objective was to tag Masai giraffe across a gradient of human land-use in the Amboseli ecosystem using Savanna Tracking GPS satellite tail units. Our aim was to better understand how giraffe respond to and navigate around fencing and other anthropogenic developments in this increasingly fragmented landscape.

Specific research goals include:

- To assess giraffe behavioural responses to fencing and fragmentation.
- To examine giraffe space use patterns and resource selection in the Amboseli ecosystem.
- To assess connectivity in an increasingly fragmented landscape.

Data from this project will help to better inform conservation and management strategies for Masai giraffe. Before tagging, a community sensitisation exercise was undertaken by KWS from 13-14 October 2023 to mobilise support from the community leaders and identify giraffe in key tagging areas.

Results

The tagging exercise took place from 16-19 October 2023, and a total of 14 Masai giraffe (7 female and 7 male) were tagged in the following areas: Mailua (n=5), Imbirikani (n=4),

Selengei (n=3), Mangula (n=1), and Longosua (n=1).

Despite the tagging taking place in the dry season, all sites, except for Imbirikani, were characterised by dense woodlands that made the terrain challenging to navigate – in particular at speed as required during giraffe capture. Extended areas of land clearance and many fences were visible during the tagging exercise, especially in the Selengei area. Many dig sites to pump water for the farms were observed in dry riverbeds, a practice, which exacerbates drought conditions.

A large male giraffe was tagged in the Longosua area to understand movement of giraffe in the area, which at the time had ~48 giraffe, all of them male. Male giraffe move in and out of the area but no female giraffe were recorded recently. As such, understanding the movement of the giraffe in the area can help inform potential future translocation plans and connectivity (or lack thereof) with other areas where female giraffe are likely to occur.

Acknowledgements

We thank the community members from the areas where the giraffe tagging operation took place.





Native woodland cleared to pave way for agriculture. Image: GCF



Darted giraffe flanked by a KWS Vet Unit vehicle. Photo: The Safari Collection



Dr Arthur Muneza approaching a darted giraffe. Image: RAMAT Wildlife Society



The KWS Vet Unit pursuing a darted giraffe to begin roping. Photo: The Safari Collection



Fitting a Savanna Tracking GPS satellite tail unit to a giraffe's tail. Image: The Safari Collection



Mr Adan Kala, KWS Senior Assistant Director Southern Conservation Area, addressing members of the Mailua community during the giraffe tagging operation. Photo: The Safari Collection



Dr Edward Kariuki, KWS Senior Veterinarian, Ambosemi Ecosystem, collecting ticks during tagging operation. Image: The Safari Collection



Giraffe with a Savanna Tracking GPS satellite tail unit. Image: The Safari Collection